NISS/SAMSI Affiliate Update

April 2015

Co-Sponsored Events

G70: A Celebration of Alan Gelfand's 70th Birthday
When: April 19-22, 2015
Where: Durham, NC
Details here.

The 29th New England Statistical Symposium
When: April 24-25, 2015
Where: University of Connecticut
Details here.

CAUSE US Conference on Teaching Statistics
When: May 28-30
Where: Penn Stater Conference Hotel, State College, PA
Details here.

2015 International Total Survey Error Conference
When: September 19-22, 2015
Where: Baltimore, MD
Details here.

SAMSI Events

Ecology Transition Workshop

When: May 4-6, 2015
Where: Research Triangle Park , NC
Details here.

Beyond Bioinformatics Transition Workshop
When: May 11-13, 2015
Where: Research Triangle Park, NC
Details here.

Undergraduate Modeling Workshop
When: May 17-22, 2015
Where: NCSU, Raleigh, NC
Details here.

SAMSI/SAVI Workshop on Time Series Analysis
When: May 25-31, 2015
Where: Pune, India
Details here.

Summer Program: Uncertainties in Computational Hemodynamics
When: June 1-3, 2015
Where: SAMSI, RTP, NC
During this workshop, bio-engineers, mathematicians, medical doctors, physiologists and

Affiliate Profile - The Ohio State University Statistics Department

Founded in 1974, The Department of Statistics at The Ohio State University has grown steadily over the last 40 years to become an internationally recognized hub of research in statistical science and of statistics education. The department currently has 23 tenure-track/tenured faculty members, 6 professors emeriti in residence, and 4 associated faculty members with expertise in statistical education and consulting. The department also regularly hosts visiting scholars from around the world.

The faculty of the Statistics Department at OSU.

In terms of its research profile, the department aims to contribute to virtually all areas of statistical science, including the development of novel statistical theory and methodology. Specific areas of excellence include Bayesian statistics, spatio-temporal statistics, statistical learning, and biostatistics. Research is directed toward modern and emerging areas of interest. For example, in concert with the "big data" or "data science" revolution, many faculty members include high-dimensional analysis and computing as primary foci of their research programs. A large portion of the department's faculty and students are involved in interdisciplinary research and make significant scientific contributions beyond the field of statistics. Faculty members are highly successful at securing

statisticians will work collaboratively toward the resolution of three significant challenges in the context of computational hemodynamics: (i) stochastic modeling, (ii) big data approach and (iii) relevance in the clinical setting. The three-day event is structured so that one day will be devoted to each challenge, with a mix of talks and brain storming sessions.
Details here.

Bayesian Nonparametrics Synergies between Statistics, Probability and Mathematics
When: June 29 - July 2, 2015
Where: SAMSI, RTP, NC
Deadline to Apply: May 4, 2015
Bayesian Nonparametrics (BNP) is a rapidly evolving area at the intersection of statistics, machine learning, probability and computer science. The focus is on modeling infinite-dimensional unknown objects that may consist of curves, surfaces, processes or probability measures.The goal of this four-day workshop is to bring together a group of leading researchers having different perspectives on BNP including "outsiders" working on related areas relevant to BNP, such as optimization and probability, with the goal of spurring new collaborative projects aimed at developing transformative new approaches and high impact scientific tools. **Details here**.

Industrial Mathematics & Statistical Modeling Workshop
When: July 12-22, 2015
Where: NCSU, Raleigh, NC
Deadline to Apply: April 15, 2015
Graduate students in mathematics, engineering, and statistics will be exposed to challenging and exciting real-world problems arising in industrial and government laboratory research. Students will also experience the team approach to problem solving. Students are divided into six-member teams.
Details here.

SAMSI's 2015-16 Programs

The following are the programs for 2015-16.

Challenges in Computational Neuroscience (CCNS)
The CCNS program will develop mathematical and statistical methods for neuroscience applications. These will be used to understand the underlying mechanisms that bridge multiple spatial and temporal scales, linking the activity of individual components (e.g., molecular biology, genetics, and neuron networks), and their interactions to the complex dynamic behavior of the brain and nervous system. Brain theory, modeling, and statistics will be essential to turn data into better understanding of the brain. The CCNS program will address the underlying methodological, theoretical, and computational challenges. Probability and statistics, dynamical systems, geometry, and computer science will be combined with respect to theory and in applications.

The opening workshop is scheduled for

competitive grants from various research funding agencies, including the National Science Foundation (NSF) and National Institutes of Health (NIH); research expenditures from these grants typically ranges from $1-2 million per year. In addition, the department is a partner in administering the NSF-funded Mathematical Biosciences Institute on the Ohio State campus.

The department offers several graduate degree programs, including the MS and PhD in Statistics and the Master of Applied Statistics (MAS) degree. It jointly administers a unique Interdisciplinary PhD in Biostatistics with the Division of Biostatistics in the College of Public Health. Currently, 121 graduate students are pursuing these graduate degrees. In conjunction with Ohio State's recent initiatives in data analytics, the department partnered with the Department of Computer Science and Engineering to develop and administer a new undergraduate major in Data Analytics. The department also operates the Statistical Consulting Service, which provides support to researchers and graduate students at Ohio State, as well as to commercial and governmental organizations.

More information about the department and its activities and academic programs can be found at www.stat.osu.edu.

August 17-21, 2015. Go to the [SAMSI website](#) for details.

Program on Statistics and Applied Mathematics in Forensic Science (Forensics)
SAMSI's program on Forensics is focused on strengthening the statistical and applied mathematical foundations of forensic science. Forensic science is fundamentally based upon statistical comparisons of the characteristics of materials left at a crime scene to characteristics of possible sources or suspects. These comparisons are often acknowledged by forensic scientists to be highly subjective. A series of reports by the National Research Council (NRC) has raised deep questions about major forms of forensic evidence and has made a clear case for heeding statistical underpinnings for forensic procedures. Evidence from a crime include fingerprints, patterns and impressions (footprints and tire tracks), tool marks and firearms, hair, fibers, documents, paints and coatings, bloodstains, and fire debris. Working groups will focus on statistical issues for pattern evidence, for bias, for imaging, and for quality control for forensics laboratories. Crosscutting challenges are to identify where statistics can have a quick impact, and to educate mathematical scientists about forensics and forensic scientists about the mathematical sciences.

Opening workshop is August 31-September 4. Look at the [SAMSI website](#) for more details.

NISS and SAMSI
P.O. Box 14006, Research Triangle Park, NC
[www.niss.org](#) and [www.samsi.info](#)